UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,526	03/11/2004	Aram Lindahl	APL1P306/P3270	8495

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EXAMINER
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ART UNIT	PAPER NUMBER
4178	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/799,526	LINDAHL ET AL.
	Examiner	Art Unit	
	FATIMAT O. OLANIRAN	4178	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-29</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>11 March 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>7/11/2005</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-6, 9, 11, 18-21 and 23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Yoshino (2004/0071299).

Claim 1, Yoshino discloses, a computer-implemented method for approximating n-band

graphic equalizer settings for a media player (paragraph 4 line 1-4) using not more than

m bands, where m is less than n, (paragraph 14, line 7-10, m band: fixed level band, n

band: variable level band) said method comprising:

(a) classifying at least a plurality of the equalizer setting values with respect to

characteristics of at least a portion of a frequency response shape (paragraph 14, line

9-13) of at least one of a plurality of predetermined filter types (paragraph 14, line 7-10,

filter types: fixed-level and variable); and

(b) determining parameters for one or more filters of the at least one of

the plurality of predetermined filter types used in classifying the equalizer

settings (paragraph 47, line 6-10).

Claim 2, Yoshino discloses a computer-implemented method wherein said classifying
(a) operates to classify the equalizer setting values with respect to a plurality of the
predetermined filter types (paragraph 47, line 6-10), and wherein said determining (b)
determines the parameters for the one or more filters of the plurality of the
predetermined filter types (paragraph 47, line 6-10).

Claim 3, Yoshino discloses a computer-implemented, wherein said method further
comprises: (c) limiting the number of the one or more filters in the classification to a
maximum number of filters, the maximum number being not more than m (paragraph
61, line 2-8, m=1).

Claim 4, Yoshino discloses a computer-implemented method wherein n = 10 (paragraph
61, line 2-8, n=10).

Claim 5, Yoshino discloses a computer-implemented method as recited in claim 3,
wherein said limiting (c) operates to limit the plurality of the predetermined filter types in
the classification to a maximum of three (paragraph 61, line 2-8).

Claim 6, Yoshino discloses, wherein said method further comprises:
(c) assigning a priority to each of the one or more filters in the
classification (paragraph 61, line 5-8); and (d) limiting the number of the one or more
filters in the classification to a maximum number of filters based on the priority assigned

to each of the plurality of the predetermined filter types in the classification, the maximum number being not more than m (paragraph 61, line 5-8 and paragraph 62, line 1-4).

Claim 9, Yoshino discloses a computer-implemented wherein the classification approximates the equalizer setting values through use of a minimum number of the predetermined filter types (paragraph 62, line 1-4).

Claim 11, Yoshino discloses wherein the filters are digital filters (paragraph 55, line 1-4).

Claim 18, Yoshino discloses a computer readable medium including at least computer program code (paragraph 16, line 1-4) for approximating n-band graphic equalizer settings for a computing device using less than n bands, said computer readable medium comprising:
computer program code for classifying at least a plurality of the equalizer setting values with respect to characteristics of at least a portion of a frequency response shape of at least one of a plurality of predetermined filter types; and computer program code for determining parameters for one or more filters of the at least one of the plurality of predetermined filter types used in classifying the equalizer settings (paragraph 16, line 6-16).

Claim 19 Yoshino discloses, wherein said computer program code for classifying operates to classify the equalizer setting values with respect to a plurality of the predetermined filter types, and wherein said computer program code for determining operates to determine the parameters for the one or more filters of the plurality of the predetermined filter types (paragraph 16, line 6-16).

Claim 20, Yoshino discloses wherein said computer readable medium further comprises: computer program code for limiting the number of the one or more filters in the classification to a maximum number of filters (Fig. 11 paragraph 182 line 1-3).

Claim 21, Yoshino discloses wherein said computer readable medium further comprises: computer program code for assigning a priority to each of the one or more filters in the classification; and computer program code for limiting the number of the one or more filters in the classification to a maximum number of filters based on the priority assigned to each of the plurality of the predetermined filter types (paragraph 16, line 6-16) in the classification, the maximum number being less than n (Fig. 11, paragraph 182, line 1-3, n: fixed level band).

Claim 23, Yoshino discloses a system for approximating an n-band graphic equalizer for use on a device having limited computational resources or computational time, said system comprising: means for classifying at least a plurality of equalizer setting values of the n-band graphic equalizer with respect to characteristics of at least a portion of a

frequency response shape of at least one of a plurality of predetermined filter types; and

means for determining parameters for one or more filters of the at least one of the

plurality of predetermined filter types used in classifying the equalizer settings

(paragraph 16, line 1-16).

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by

Ecklund et al (5524290).

Claim 23, Ecklund discloses a system for approximating an n-band graphic equalizer for

use on a device having limited computational resources or computational time, said

system comprising: means for classifying at least a plurality of equalizer setting values

of the n-band graphic equalizer with respect to characteristics of at least a portion of a

frequency response shape of at least one of a plurality of predetermined filter types; and

means for determining parameters for one or more filters of the at least one of the

plurality of predetermined filter types used in classifying the equalizer settings (col. 3,

line 27-35).

Claim 24, Ecklund discloses wherein said system is an embedded system (col.2, line

57-60)

Claim 25, Ecklund discloses wherein the system is a portable computing device (col. 2,

line 52-56).

Claim 26, Ecklund discloses wherein the system is a hand-held media player (col. 2 line 14-17).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 7-8, 12-17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino (2004/0071299) in view of Wiser et al (7016746).

Claim 7 analyzed with respect to claim1, Yoshino does not disclose a computer-implemented wherein the predetermined filter types in the classification are chosen from the group consisting of: a low-shelf, a high-shelf and a parametric.

Wiser discloses disclose a computer-implemented wherein the predetermined filter types in the classification are chosen from the group consisting of: a low-shelf, a high-shelf and a parametric (col. 8 line 50-55). Therefore it would be obvious to one of ordinarily skilled in the art at the time the invention was made to modify the graphic equalizer of Yoshino with the shelving filters of Wiser in order to provide signal boosts or cuts for a desired frequency range.

Claim 8 analyzed with respect to claim 7 and claim 1, Yoshino in view of Wiser disclose

computer-implemented method, wherein the predetermined filter types in the
classification include not more than one low-shelf and not more than one high-shelf
(Wiser: col. 8 line 50-55).

Claim 12, Yoshino does not disclose wherein the media player is a hand-held media
player. Wiser discloses wherein the media player is a hand-held media player (col. 1
line 48-49). Therefore it would be obvious to one of ordinary skill in the art at the time
the invention was made to modify the media system of Yoshino with the CD player of
Wiser in order to have equalized digital music.

Claim 13, Yoshino discloses a computer-implemented method for approximating n-band
graphic equalizer settings for a media player using less than n filters, said method
comprising (paragraph 4 line 1-4) :
(c) examining the equalizer setting values other than the first set for
 approximate correlation to at least a portion of a frequency response of a parametric
type filter (paragraph 61, line 2-8);
(d) selecting the parametric type filter if a second set of the equalizer settings
approximately correlate (paragraph 61, line 2-8); and
(e) determining parameters for the shelf type filter and the parametric
type filter, (paragraph 64, line 1-5).
Yoshino does not disclose (a) examining the equalizer setting values for approximate
correlation to at least a portion of a frequency response of a shelf type filter;

(b) selecting the shelf type filter if a first set of the equalizer setting values approximately

correlate; wherein at least the shelf type filter and the parametric type filter

are used to approximate the n-band graphic equalizer settings for the media

player.

Wiser discloses (a) examining the equalizer setting values for approximate correlation to

at least a portion of a frequency response of a shelf type filter;

(b) selecting the shelf type filter if a first set of the equalizer setting values approximately

correlate (col. 8 line 41-47); wherein at least the shelf type filter and the parametric type

filter are used to approximate the n-band graphic equalizer settings for the media

player (col. 8 line 50-54). Therefore it would be obvious to one of ordinarily skilled in the

art at the time the invention was made to modify the graphic equalizer of Yoshino with

the shelving filters of Wiser in order to provide signal boosts or cuts for a desired

frequency range.

Claim 14 analyzed with respect to claim 13, Yoshino further discloses, wherein said

method approximates the n-band graphic equalizer settings for the media player using

not more than m of the filters (paragraph 61, line 2-8, m=1).

Claim 15 analyzed with respect to claim 13, Yoshino further discloses wherein the filters

are digital filters (paragraph 55, line 1-4).

Claim 16 analyzed with respect to claim 13, Yoshino discloses wherein the equalizer,

settings within the first set are adjacent one another, and wherein the equalizer settings
within the second set are adjacent one another (paragraph 61, line 2-8, variable filters
are adjacent tone another).

Claim 17 analyzed with respect to claim 13, Wiser further discloses wherein the media
player is a hand-held media player (col. 1 line 48-49).

Claim 22 analyzed with respect to claim 18, Yoshino does not disclose wherein the
predetermined filter types in the classification are chosen from the group consisting of: a
low-shelf, a high-shelf and a parametric.

Wiser discloses wherein the predetermined filter types in the classification are chosen
from the group consisting of: a low-shelf, a high-shelf and a parametric (col. 8 line 50-
55). Therefore it would be obvious to one of ordinarily skilled in the art at the time the
invention was made to modify the graphic equalizer of Yoshino with the shelving filters
of Wiser in order to provide signal boosts or cuts for a desired frequency range.

6.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino
(2004/0071299) in view of Montag et al. (2004/0032959).

Claim 10, Yoshino does not disclose wherein the predetermined filter types are second
order recursive filters.

Montag discloses wherein the predetermined filter types are second order recursive
filters (paragraph 8, line 1-3).

Therefore it would be obvious to one ordinarily skilled in the art at the time the invention

was made to modify the graphic equalizer of Yoshino with the recursive filters of Montag

to ensure spectrally balanced sound as taught by Montag (paragraph 7, line 9).

7.   Claim 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wiser et al (7016746) in view of Yoshino (2004/0071299).

Claim 27, Wiser discloses a media device comprising: a data store for storing media

data received from a host computer (col. 1 line 44-49),

Wiser does not discloses the media data including media content and equalizer setting

information for at least one media item; and a processor operatively connected to said

data store, said processor operates to acquire equalizer setting values based on the

equalizer setting information, to approximate the equalizer setting values with a reduced

filter order approximation, and to present the media content at said media player in

accordance with the reduced filter order approximation.

Yoshino discloses the media data including media content and equalizer setting

information for at least one media item (paragraph 16, line 1-5); and a processor

operatively connected to said data store, said processor operates to acquire equalizer

setting values based on the equalizer setting information, to approximate the equalizer

setting values with a reduced filter order approximation, and to present the media

content at said media player in accordance with the reduced filter order approximation

(paragraph 16, line 6-16). Therefore it would be obvious to one ordinarily skilled in the

art at the time the invention was made to modify the computer system of Wiser with the graphic equalizer of Yoshino in order to be able to store and send quality digital audio.

Claim 28 analyzed with respect to claim 27, Wiser further discloses wherein said data store comprises a hard drive that stores the media data (col. 1 line 45-47).

Claim 29 analyzed with respect to claim 27, Wiser further discloses wherein said media device is a hand-held media player (col. 1 line 48-49).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FATIMAT O. OLANIRAN whose telephone number is (571)270-3437. The examiner can normally be reached on M-F Alt F off 8:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on 571-272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FO

12/06/2007

/Hai Tran/
Supervisory Patent Examiner, Art Unit 4178